

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BOARD OF PATENT APPEALS AND INTERFERENCES

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Applicant : Wilkins, et al.
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/Jason H. Foster/

APPLICANT'S BRIEF ON APPEAL

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(1) REAL PARTY IN INTEREST

The real party in interest is Rodney R. Wilkins, Applicant and Ahlstrom Air Media LLC, Assignee.

(2) RELATED APPEALS AND INTERFERENCES

None.

(3) STATUS OF CLAIMS

Claim 1 is cancelled.

Claims 2-25 are rejected on the basis of the prior art.

Claim 26 is withdrawn.

Appeal is from the rejection of claims 2-25.

(4) STATUS OF AMENDMENTS

No claim amendment was filed subsequent to the final rejection.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

The invention is a filter material comprising a blend of two types of fibers – polypropylene and either acrylic or modacrylic.¹ The polypropylene fibers have a measurable amount of at least one extractable agent on the outer surface of the fibers.² The polypropylene fibers preferably have extractable agents of less than about 0.1 percent by weight.³

The invention is a filter material comprising a blend of polypropylene fibers with a second type of fiber, which is selected from modacrylic and acrylic fibers.⁴ The modacrylic or acrylic fibers have less than about 0.1 weight percent of at least one extractable agent on their outer surfaces.⁵

¹ Specification Page 5, lines 8-9. The page and line numbers listed in this section refer to Applicant's original non-provisional application having a priority filing date of December 31, 2003. Any affect of subsequent amendments on page and line numbering is not taken into account.

² Id., lines 9-10.

³ Id., lines 13-16.

⁴ Id., page 7, lines 8-9.

⁵ Id., page 9; lines 5-7; original claim 24; page 5, lines 13-16 for "measurable amounts" supporting 0.02 to 0.1 weight percent.

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 2, 22 and 24-25 are unpatentable under 35 U.S.C. §102(b) over Wnenchak (US 5,368,734); and
2. Whether claims 2-25 are unpatentable under 35 U.S.C. §102(b) over Brown (US 4,798,850) as evidenced by Wnenchak (US 5,368,734) and as evidenced by Legare (U.S. 6,211,100).

(7) ARGUMENT

1. Rejection under 35 U.S.C. §102(b) over Wnenchak (US 5,368,734)

Claims 2, 22, and 24-25

Applicant's Claims 2, 22, and 24-25 recite a filter material made from polypropylene fibers and either acrylic or modacrylic fibers. The material contains less than 0.1 weight percent of at least one extractable agent.⁶ The examiner has rejected claims 2, 22, and 24-25 based on his contention that the Wnenchak patent discloses a filter material ("Technostat") that is made of polypropylene and modacrylic containing "up to about .1%" extractable contaminants.⁷ The examiner's contention, however, is factually incorrect with respect to the proportion of contaminants present in the Technostat material.

An examination of column 3, line 49 through column 4, line 19 of Wnenchak is instructive. The data table in column 4, lines 11-19 shows test results representing the contaminant content of three samples of the prior art Technostat filter material (the first three lines) and three samples of the Wnenchak filter material (a combination of ePTFE fiber and nylon 66 – the second three lines). Contaminant levels are given as milligrams of contaminant per square meter of filter material. The contaminant levels in the three Techostat filter material samples tested were 362.86 mg/m², 348.59², and 223.05 mg/m².

⁶ The terms "contaminant," "extractable contaminant," and "extractable agent" are used interchangeably herein, and each refers to substances such as lubricants or anti-static agents that may coat the filter materials discussed.

⁷ Office Action mailed 06/09/2006, page 2.

The contaminant levels in the three Wnenchak filter material samples tested were 19.99 mg/m², 16.89 mg/m², and 10.39 mg/m². The density of the Wnenchak filter material samples, as tested, is given in column 4, line 7, and is listed as 169.49 g/m². The density of the Technostat filter material samples, as tested, is given in column 3, line 55, and is listed as 110 g/m².

Applicant and the examiner disagree regarding the correct density of the Technostat material taught by Wnenchak. The examiner, citing col. 4, line 7 of the Wnenchak patent, states that the correct densities of both the Technostat and the Wnenchak filter materials as tested are 169.49 g/m². Applicant argues that the examiner is incorrect, and that the figure cited by the examiner refers only to the density of the Wnenchak filter material and not to the density of the Technostat material, which is clearly stated at column 3, line 55. Applicant admits that the language of the Wnenchak patent appears ambiguous at first. However, a close reading of column 3, line 49 through column 4, line 19 leads to only one conclusion: that the density of the Technostat material was 110 g/m², which is different from the density of the Wnenchak material (169.49 g/m²). It seems highly unlikely that two very different materials would have precisely the same density, accurate to one-hundredth of a gram per square meter.

Having established the proper densities of the subject materials, Applicant notes that, in order to derive the percentage of contaminants by weight present in each sample of the Technostat filter material disclosed in Wnenchak, one must divide the contaminant level of each sample by the density of each sample (110 g/m²) after converting the contaminant levels from mg/m² to g/m². The quotient is then multiplied by 100 to obtain a percent value. Performing this calculation for each of the Technostat samples yields a

range of approximately 0.20% to 0.33% contaminants by weight for the tested samples. These levels are well above the “less than about 0.1 weight percent” level of extractable contaminants claimed by Applicant. Therefore, Wnenchak cannot anticipate the claimed invention.

When performing calculations to derive the weight percent of contaminants in the Technostat samples, the examiner, believing the densities of both of the subject materials to be the same, mistakenly divided each of the listed Technostat contaminant levels by the density of the Wnenchak filter material (169.49 g/m^2) *instead of the density of the Technostat material (110 g/m^2)*. Because the density of the Wnenchak filter material is much greater than that of the Technostat filter material, the examiner’s calculations yielded a substantially lower range of contaminant levels by weight for the Technostat filter material: 0.13% to 0.21%. This range is incorrectly derived, and is therefore irrelevant regarding the teaching of the Wnenchak reference.

It should be noted that even if the examiner’s improperly derived range of 0.13% to 0.21% were correct, it would not include “amounts up to about .1%” as stated by the examiner.⁸ The basis of the examiner’s stated range of contaminants “up to about .1%” by weight is unknown, as such a range is neither shown in the examiner’s calculations, nor is disclosed anywhere in the reference.

⁸ Office Action mailed 12/27/2006, page 2.

Although it could be argued that the Wnenchak patent teaches to have some extractables on polypropylene and modacrylic fibers in the range of 0.20% to 0.33%, it would be incorrect to state that Wnenchak teaches extractables “less than about 0.1 weight percent” as Applicant claims. Thus, the examiner is incorrect in asserting that the Technostat filter material disclosed in Wnenchak anticipates applicant’s invention, and all rejections based on that assertion should be overturned.

2. Rejection under 35 U.S.C. §102(b) over Brown (US 4,798,850), as evidenced by Wnenchak (US 5,368,734) and as evidenced by Legare (US 6,211,100)

Claims 1-25

The examiner has rejected claims 1-25 based on the Brown, Wnenchak, and Legare references, despite the fact that applicant had cancelled claim 1 in a prior amendment. It therefore appears that the examiner’s rejection of claim 1 was made in error, and that the examiner in fact intended to list only claims 2-25 as having been rejected.

The examiner uses the Legare patent to evidence that the material used in the Wnenchak patent (“Technostat”) is the same material disclosed in the Brown patent (“The product described in [the Brown] patent is sold commercially under the trademark TECHNOSTAT...” see col. 3, lines 2-3 of Legare). However, the examiner’s rejection assumes that the Brown patent is incorrect in at least one place, that the Legare patent is correct in at least one place but incorrect in at least another, and that the Wnenchak patent is correct on the same topic on which the Brown patent is incorrect. Applicant’s

reasonable explanation below allows all the references to be correct, and this leads to the conclusion that the prior art does not anticipate the invention, nor render it obvious.

The Brown patent states that “[b]y ‘clean’ we mean that the fiber has no coating of lubricant or anti-static agent, or that any such coating was removed before blending....” Brown clearly states that its fibers have no coating. This must be incorrect in order for the examiner’s rejection to stand, because the examiner states that “what Brown considers to be ‘clean’ (substantially free) of extractables actually includes a measurable amount.”⁹ The examiner corrects Brown using Wnenchak’s statement that Technostat, which Legare shows was used in Brown, actually contains extractables.

It is unclear where the examiner’s quoted statement above that Brown teaches fibers that are “substantially free” of extractables is found in the evidence, because those words do not appear in Brown, Legare or Wnenchak. Brown teaches that its fibers contain “no coating”, not that the fibers are “substantially free” of coating. The person having ordinary skill would conclude from Brown that the fibers contain no coating of extractables. Thus, under the examiner’s explanation, Brown and Wnenchak are at odds regarding the amount of extractables in the Brown fiber blend.

There is another explanation to this apparent inconsistency. The only link between Brown and Wnenchak is the trademark Technostat.¹⁰ The trademark Technostat is registered in the U.S. Patent and Trademark Office under federal registration number 1,723,870 (see appended trademark registration certificate). The trademark was registered on October 13, 1992 based on a priority document in the United Kingdom

⁹ Office Action mailed 12/27/2006, page 4.

¹⁰ Although the Wnenchak patent mentions the Brown patent by number, it does not do so in the context of any discussion of the amount of extractables/contaminants on the fibers.

dated January 19, 1990. Despite the Legare patent's statement, it is unclear whether the Brown patent (filed in 1987 based upon a 1986 priority document) used the same fiber blend sold under the trademark Technostat in 1992 (the Wnenchak priority date). Even if the blend was the same, there is no evidence that the amount of extractables was the same. If this similarity in extractable content is not required by the evidence, then the only extractable content link between Brown and Wnenchak disappears.

There is no description in the Technostat registration other than the identification of goods ("nonwoven fibrous material for use in air filters"). Many fibrous blends that do not meet the claim limitations could be described by this identification of goods. The owner of the Technostat trademark could, without violating trademark law, change the composition of its fiber blend and extractable content during the life of the trademark and the registration. This is the only reasonable explanation for Wnenchak's and Brown's apparently inconsistent statements about the extractable content.

The examiner cited the Legare patent for support of the statement that the fiber blend described in detail in the Brown patent was sold under the trademark Technostat. However, Legare also states that the Technostat material has fibers that "are scoured to remove all surface contamination, to enable formation of a stable triboelectric charge." See col. 2, lines 48-49. Thus, the Legare patent, which must be correct regarding the trademark Technostat for the examiner's rejection to stand, must be incorrect regarding contaminant content. This raises doubt about Legare's reliability under the Examiner's interpretation unless one accepts that different Technostat compositions are possible.

The evidence shows the following: Brown and Legare state that Brown's material contains no extractables. Legare states that Brown's patented material is sold under the

trademark Technostat. Wnenchak cites Brown's patent and states that Technostat contains 0.20 to 0.33 percent extractables. The only explanation that allows consistency between references is that the material sold under the trademark Technostat has changed in its composition so that Wnenchak's measurements show extractables, whereas Brown and Legare show none.

Thus, the prior art teaches a fiber blend with no extractables whatsoever (Brown, Legare), and a fiber blend with 0.20% to 0.33% extractables (Wnenchak). Applicant's claimed composition is within a range that is NOT taught by the prior art. The claims are therefore allowable, because they do not claim the prior art. Instead, Applicant claims about 0.1% or less extractables, but still a measurable amount. No prior art reference teaches this range, and therefore amended claims 2 and 24 are allowable, as are all claims dependent thereon (including dependant claim 23, which was rejected by the examiner as a product-by-process limitation).

Therefore, applicant respectfully submits that the rejections are in error and should be reversed and that claims 2-25 should be allowed.

The Commissioner is authorized to charge Deposit Account No. 13-3393 for any insufficient fees under 37 CFR §§ 1.16 or 1.17, or credit any overpayment of fees.

Respectfully submitted,

May 29, 2007
Date of Signature

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(8) CLAIMS APPENDIX

1 1. (Cancelled)

1 2. A filter material comprising a blend of (a) polypropylene fibers with measurable
2 amounts of at least one extractable agent on outer surfaces thereof, and (b) fibers of a
3 second type selected from a group consisting of acrylic and modacrylic, wherein the
4 measurable amount of said at least one extractable agent is less than about 0.1 weight
5 percent.

1 3. The filter material in accordance with claim 2, wherein the blend contains
2 polypropylene fibers and the second type of fibers in a ratio between about 10:90 and
3 about 90:10.

1 4. The filter material in accordance with claim 3, wherein the blend contains
2 polypropylene fibers and the second type of fibers in a ratio between about 20:80 and
3 about 80:20.

1 5. The filter material in accordance with claim 4, wherein the blend contains
2 polypropylene fibers and the second type of fibers in a ratio between about 30:70 and
3 about 70:30.

1 6. The filter material in accordance with claim 5, wherein the blend contains
2 polypropylene fibers and the second type of fibers in a ratio between about 40:60 and
3 about 60:40.

1 7. The filter material in accordance with claim 6, wherein the blend contains
2 polypropylene fibers and the second type of fibers in a ratio between about 45:55 and
3 about 55:45.

1 8. The filter material in accordance with claim 7, wherein the blend comprises about 50
2 weight percent polypropylene fibers and about 50 weight percent of the second type of
3 fibers.

1 9. The filter material in accordance with claim 2, wherein the blend contains
2 polypropylene fibers and acrylic fibers in a ratio between about 20:80 and about 80:20.

1 10. The filter material in accordance with claim 9, wherein the blend contains
2 polypropylene fibers and acrylic fibers in a ratio between about 30:70 and about 70:30.

1 11. The filter material in accordance with claim 10, wherein the blend contains
2 polypropylene fibers and acrylic fibers in a ratio between about 40:60 and about 60:40.

1 12. The filter material in accordance with claim 11, wherein the blend contains
2 polypropylene fibers and acrylic fibers in a ratio between about 45:55 and about 55:45.

1 13. The filter material in accordance with claim 12, wherein the blend comprises about 50
2 weight percent polypropylene fibers and about 50 weight percent acrylic fibers.

1 14. The filter material in accordance with claim 2, wherein the blend contains
2 polypropylene fibers and modacrylic fibers in a ratio between about 20:80 and about
3 80:20.

1 15. The filter material in accordance with claim 14, wherein the blend contains
2 polypropylene fibers and modacrylic fibers in a ratio between about 30:70 and about
3 70:30.

1 16. The filter material in accordance with claim 15, wherein the blend contains
2 polypropylene fibers and modacrylic fibers in a ratio between about 40:60 and about
3 60:40.

1 17. The filter material in accordance with claim 16, wherein the blend contains
2 polypropylene fibers and modacrylic fibers in a ratio between about 45:55 and about
3 55:45.

1 18. The filter material in accordance with claim 17, wherein the blend comprises about
2 50 weight percent polypropylene fibers and about 50 weight percent modacrylic fibers.

1 19. The filter material in accordance with claim 2, wherein the second type of fibers
2 comprises acrylic fibers which are substantially free of extractable agents.

1 20. The filter material in accordance with claim 2, wherein the second type of fibers
2 comprises acrylic fibers which contain measurable amounts of at least one extractable
3 agent.

1 21. The filter material in accordance with claim 2, wherein the second type of fibers
2 comprises modacrylic fibers which are substantially free of extractable agents.

1 22. The filter material in accordance with claim 2, wherein the second type of fibers
2 comprises modacrylic fibers which contain measurable amounts of at least one
3 extractable agent.

1 23. The filter material in accordance with claim 2, wherein the polypropylene fibers are
2 not cleaned to remove said at least one extractable agent.

1 24. A filter material comprising a blend of (a) polypropylene fibers, and (b) fibers of a
2 second type with less than about 0.1 weight percent of at least one extractable agent on
3 outer surfaces thereof, said fibers being selected from a group consisting of acrylic and
4 modacrylic.

1 25. The filter material in accordance with claim 21, wherein the polypropylene fibers
2 have measurable amounts of at least one extractable agent on outer surfaces thereof.

1 26. **(Withdrawn)** A method of filtering particulate from a gas stream, the method
2 comprising:

3 (a) blending polypropylene fibers having measurable amounts of at least one
4 extractable agent on outer surfaces thereof with fibers of a second type selected
5 from a group consisting of acrylic and modacrylic to form a filter material; and
6 (b) disposing said filter material in said gas stream without cleaning said at least
7 one extractable agent from the outer surfaces of the fibers.

(9) EVIDENCE APPENDIX

Certificate for United States Trademark Registration Number 1,723,870, appended as an Exhibit to the Amendment filed October 10, 2006.

Int. Cl.: 24

Prior U.S. Cl.: 42

United States Patent and Trademark Office

Reg. No. 1,723,870

Registered Oct. 13, 1992

**TRADEMARK
PRINCIPAL REGISTER**

TECHNOSTAT

HEPWORTH MINERALS AND CHEMICALS
LTD. (UNITED KINGDOM CORPORATION)
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FOR: NONWOVEN FIBROUS MATERIAL
FOR USE IN AIR FILTERS, IN CLASS 24 (U.S.
CL. 42).

PRIORITY CLAIMED UNDER SEC 44(D) ON
UNITED KINGDOM APPLICATION NO.
1411412, FILED 1-19-1990, REG. NO. A1411412,
DATED 1-19-1990, EXPIRES 1-19-1997.

SER. NO. 74-054,657, FILED 5-1-1990.

ANDREW D. LAWRENCE, EXAMINING AT-
TORNEY

(10) RELATED PROCEEDINGS APPENDIX

None.